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THE CODEX

by

C. H. ROBERTS

Fellow of the Academy

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THE most momentous development in the history of the book until the invention of printing was the substitution of the codex for the roll; this we may define as a collection of sheets of any material, folded and fastened together at the back or spine and usually protected by covers. There has never been any doubt that the physical origin of the codex is to be found in the writing tablet; there should have been little about the time when this development took place, although it has needed the impact of fifty years of discoveries in Egypt to make scholars take notice of what their literary authorities told them. But the questions why this change took place when it did, in what circles the codex was first used, and why it supplanted the roll still await an answer. This essay is written in the belief that a renewed scrutiny of our literary sources, both pagan and Christian, together with an analysis of the evidence from papyri, will provide at least provisional answers.¹

¹ This paper is substantially based on two lectures given at University College, London, in January 1953. I am indebted to the authorities of London University and in particular to Professor Francis Wormald and Professor E. G. Turner for providing me with the occasion to traverse again a familiar but still unmapped territory.

Any worker in this field must express his obligations to Theodor Birt's *Das antike Buchwesen* (Leipzig, 1882). As a collection of the literary material it is indispensable and calls for few supplements, but the eccentricity of its interpretations makes it an unsafe guide even to these sources. I have learnt much from W. Schubart's *Das Buch bei den Griechen und Römern* (Berlin, 1922), still not only the most readable but the most reliable introduction to the whole subject. There are some valuable observations in K. Dziatko's *Untersuchungen über ausgewählte Kapitel des antiken Buchwesens* (Leipzig, 1900) and, given its date, Theodor Zahn's admirable treatment of the evidence for the Christian book in his *Geschichte der neutestamentlicher Kanons*, i, pp. 60 sq. (Berlin, 1888) is vitiated only by the then common assumption that papyrus implies the roll and parchment the codex. All these discussions, even to a large extent that of Schubart, were written before the Egyptian discoveries set the sources they quoted in a different light. My investigation of the literary papyri has been made both more easy and less inexact by the appearance of Professor R. A. Pack's *Greek and Latin Literary texts from Egypt* (University of Michigan Press, 1952).

The writing tablet need not long delay us. It was commonly formed of two or more pieces of wood, held together either by a clasp or by strings passed through pierced holes; the centre of the tablet was usually hollowed to receive wax, while a small raised surface was often left in the middle to prevent the writing on the wax being smudged when the tablet was closed. Writing in ink or chalk was sometimes placed directly on the wood. It was one of the oldest, if not the oldest, recipient of writing known to the Greeks, who may have borrowed it from the Hittites.¹ Homer knew of it, for it was on a folded tablet or diptych that Proitos scratched the 'deadly marks' that were intended to send Bellerophon to his death.² To the Greeks of the classical age the tablet had a tradition behind it and a dignity that the papyrus roll lacked;³ in Sophocles, Agamemnon orders the muster roll of the Greek princes to be read from a tablet and it is on a tablet that Zeus, in a fragment of Euripides, records the sins of men.⁴ In later Greece they were the familiar recipient of anything of an impermanent nature—letters, bills, school exercises, memoranda, a writer's first draft. Already in the fifth century tablets of several leaves were in use,⁵ but the nature of the material would set a limit to their number and no specimen surviving from any period of antiquity has more than ten.⁶ In Rome they were equally familiar from an early date and were employed not only for the casual purposes of everyday life but for legal documents and official certificates. Of their use as the author's notebook Pliny the Younger gives a vivid picture in his account of his uncle at work.⁷ By his side stood a slave with a book from which to read to his master and tablets on which to take down in shorthand anything that had to be extracted or

¹ See C. Wendel, *Die griechisch-römische Buchbeschreibung* (Halle, 1949), p. 91.

² *Iliad* vi. 168 sq.

³ On this see Dziatko, *op. cit.*, p. 138, quoting a paper by Fr. Marx (not accessible to me); the gods are represented as using δέλτοι, διφθέραι, δστράκα, σκυτάλαι, anything in fact except βίβλοι, the written papyrus roll. For the leather roll see below, p. 172, n. 1.

⁴ Sophocles, fr. (Pearson) 144: Euripides, fr. (Nauck) 506, cf. fr. 144.

⁵ Euripides, *I.T.* 727. Schubart's comment (*op. cit.*, p. 175) that πτυχή is not strictly applicable to a hard material and that therefore in this passage it implies a previous use of folded leather, papyrus, &c., is mistaken since πτυχή can be used of the folds of doors (see LSJ s.v.).

⁶ For the uses to which tablets were put see Schubart, *op. cit.* 1, pp. 24 sq. and notes, p. 175; the ninefold wax tablet illustrated on p. 24 must originally have had ten leaves (see G. Plaumann's article, referred to by Schubart, p. 175). P. Fouad 74 of the fourth century A.D. refers to and describes a δελτάριον . . . δεκάπτυχον.

⁷ *Ep.* iii. 5. 15 sq.

noted; from these tablets (*pugillares*) were compiled the immense *commentarii*, filling 160 rolls and written on both sides of each roll in a minute hand. These must have been inconceivably cumbrous to use, particularly in the composition of a work such as the *Natural History*; it is odd that with the tablets at his side Pliny never thought of substituting for the opisthograph roll a collection of folded sheets of papyrus.

The correct designation in Latin for a plurality of tablets or for multi-leaved tablets was *codex*, whether the material used was wood, as was usual, or ivory. When Seneca enlarges¹ on that *inane studium supervacua discendi*, an infection the Romans had contracted from the Greeks, he cites as an example the inquiry whether Claudius Caudex, one of the consuls of 264 B.C., was so called 'quia plurium tabularum contextus caudex apud antiquos vocabatur unde publicae tabulae codices dicuntur'. Already in the time of Cato the Censor² the words *tabulae* and *codex* were interchangeable and the latter is frequently found in Cicero for tablets used for business or legal purposes;³ but neither now nor for a long time to come was there any question of the word *codex* denoting a book.⁴ It would seem that it was the Romans rather

¹ *De Brevitate Vitae* 13. Seneca's account may derive from Varro *ap. Non.* p. 535 M (*quod antiqui pluris tabulas codices dicebant*); cf. Seneca, *Contr.* i, praef. 18.

² Cato *ap. Fronto, Ep. ad Ant.* i. 2, p. 99 N.: *iussi codicem proferri ubi mea oratio scripta erat . . . ; tabulae prolatae.*

³ For Cicero's usage see Th. Birt, *Kritik und Hermeneutik nebst Abriß des antiken Buchwesens* (Munich, 1913), p. 284 (henceforth cited as *Abriss*).

⁴ *Pace* H. A. Sanders, 'The Codex', in the *University of Michigan Quarterly Review* (1938), pp. 95 sq. Apart from passages which refer to the notebook rather than the book (i.e. in them there is no question of publication), two passages from ancient authors have been cited as evidence of the early use of the codex.

Asconius in *Milonem* 29 records that at the funeral of Clodius together with chairs and tables there were burnt *codices librariorum*. There is no reason to think that *codex* here carries any but its normal meaning of *wooden tablet*, or perhaps *wooden board*, the equivalent of *σανίς* or *λευκώμα*; the *librarii* would be the clerks in the archive house, cf. the later use of the word in the Roman army. On the passage in general see Dziatko in *RE*, s.v. *codex*. There is no positive evidence to support Schubart's suggestion that the *codices* in question were bound up volumes of official *Acta* on parchment (*op. cit.*, p. 114) and the use of rolls for this purpose by every official in Egypt from the Prefect downwards (the familiar *εἰρόμενα*) is against it. I can find no trace of such a use of the codex in the language of Roman administration before the time of John Chrysostom; in discussing the birth of Christ (*Migne, PG* 49, p. 353) he says τοῖς ἀρχαίοις τοῖς δημοσίᾳ κειμένοις κώδιξιν ἐπὶ τῆς Ῥώμης ἔξεστιν ἐντυχόντα καὶ τὸν καιρὸν τῆς ἀπογραφῆς μαθόντα ἀκριβῶς εἰδέναι τὸν βουλόμενον. Either he is alluding to the certificates of birth of Roman citizens

than the Greeks who developed the tablet to a size where it could accommodate lengthy accounts (they distinguished, as the Greeks did not, between the large tablet and the *pugillares* that could be held in a closed hand); certainly it was they who took the important next step, that of finding a material lighter, thinner, and with more give in it than wood. The Greeks had in all probability used rolls of leather before ever they used papyrus and continued to employ them in times or places in which papyrus was hard to come by; later, the refinements in its preparation associated with the name of Eumenes II of Pergamum must have increased its vogue at least in Asia Minor.¹ But a change in material involved no change in format, and, if we which were in tablet form or he is transferring the practice of his own time to the first century; he certainly cannot be credited with a knowledge of the archives of the Republic or Early Empire.

The second passage (Suetonius, fr. 104 (Reifferscheid, pp. 133-4)) runs as follows: 'codex multorum librorum est, liber unus voluminis'. It is attributed to Suetonius by the Thesaurus, but is in fact conjecturally abstracted from Isidore, *Etyim.* 6. 12, 13, and the only ground for the attribution is that Suetonius is quoted by Isidore in neighbouring passages. The statement is muddled and looks like an attempt by Isidore or his authority to distinguish two terms which were to him largely synonymous. (In late antiquity *volumen* is used for 'book' in a general sense quite irrespective of the format used.) In brief, there is no need to saddle Suetonius with a seventh-century misunderstanding of what looks like a fourth-century source. (I have to thank Mr. J. Chadwick for his help on this passage.)

The earliest example known to me of *codex* used, *tout court*, for *book* occurs in Commodianus, *Carmen Apologeticum*, 11, assuming, as critical opinion appears again prepared to do, that this poem was written in the second half of the third century (see F. J. E. Raby, *Christian Latin Poetry*, p. 11, n. 4, and P. de Labriolle, *Latin Christianity* (Eng. trans., London 1924), pp. 176 sq.); it is significant that it should occur in a Christian writer. Its earlier use in the lawyers is often qualified (when it does not apply to tablets) by the addition of *membraneus* or *chartaceus*, see below, p. 181).

¹ For the use of leather and parchment see, in general, Schubart, *op. cit.*, pp. 18 sq. and 35 (with notes on p. 174), G. Zuntz in *Theol. Lit. Zt.* (1951), pp. 161 and 533, and the useful bibliography in L. Wenger, *Die Quellen des römischen Rechts* (Vienna, 1953), p. 88, n. 2. For Eumenes of Pergamum see also Kenyon, *Books and Readers in Ancient Greece and Rome* (2nd ed., Oxford, 1951), pp. 88 sq.; there are no grounds for thinking with Marquardt (*Privatleben der Römer* ii, p. 819) and Ibscher (in *Jahrbuch der Einbandkunst*, iv (1937), p. 4) that the Pergamene experiment had any connexion with the codex. Surviving fragments of ancient leather rolls from the Near East are listed in G. R. Driver's recent publication, *Aramaic Parchments of the Fifth Century B.C.* (Oxford, 1954), p. 1. The primitive associations that the leather roll had for the Greeks of the classical age are nicely brought out by Euripides, fr. 627:

εἰσὶν γὰρ εἰσὶ διφθέραι μελαγγραφεῖς
πολλῶν γέμουσαι λοξίου γηρυμάτων.

can trust our evidence it did not occur to the Greeks to replace wood with parchment (to use the term which commemorates Eumenes' experiments) in their tablets.¹ The significance of the Pergamene experiment lay in the future; certainly the prestige of papyrus as the material of the civilized world was unaffected.²

We cannot be sure when the Romans first used a parchment notebook in place of waxed tablets, but it was before the beginning of our era. Catullus can contrast the poet's jottings on parchment (*palimpsesti*) with the completed roll³ and it is to such *membranae* that Horace alludes when he writes *Tam raro scribis ut toto non quater anno Membranam poscas*.⁴ Frontinus refers to their use for letters;⁵ in the next century Gaius mentions their employment by the *argentarius* ('*Edi autem ratio ita intellegitur . . . scilicet ut non totum cuique codicem rationum totasque membranas inspiciendi describendique potestas fiat*')⁶ and Scaevola is reported to have used them for noting down cash transactions before these were transferred to a fair copy of accounts.⁷

¹ A partial exception to this statement may be found in Dura Parchment II (see F. Cumont, *Fouilles de Doure-Europos*, Paris, 1926, pp. 296 sq.). The text, a deed of registration, is written on the two inner sides only of a parchment diptych consisting of two leaves of equal size held together by a leather thong in the margin, and is placed in the last century B.C. or the first A.D. There can be no question of any Roman influence here at this time; but leather or parchment was always widely used in Asia, in large parts of which papyrus was only intermittently available, as the excavations at Dura show (for an earlier period cf. the well-known passage in Herodotus (v. 58) on the Ionian use of *διφθέροι*, and G. R. Driver, *op. cit.*). Here parchment was substituted for the wooden diptych, just as in P.Ryl. iv. 612 we find a Roman citizen in the first half of the second century drawing up his marriage contract on a piece of papyrus folded to resemble a Latin diploma; but neither in Egypt nor in Dura does this use appear to have been accompanied by the introduction of notebooks of papyrus or parchment (see p. 175). On the significance of the alternating use of papyrus and parchment at Dura see C. B. Welles in *Archives d'histoire du droit oriental*, i, pp. 1 sq.

² Pliny, *N.H.* xiii. 11 (70): 'cum chartae usu maxime humanitas vitae constet, certe memoria' and *ibid.*: 'postea promiscue repatuit usus rei qua constat immortalitas hominum.'

³ Catullus xii. 5: *palimpsestos* properly and here probably refers to parchment, though, as Cicero, *ad Fam.* 7. 18 shows, it was also used of papyrus.

⁴ *Sat.* ii. 3, 2, cf. *AP* 389 and Persius iii. 10.

⁵ *Strat.* 3. 13. 3.

⁶ Cited in *Digest* ii. 13. 10: for other passages in Gaius where the parchment book or codex proper is alluded to see below, p. 196, n. 3.

⁷ *Digest* xxxii. 102. The word used by Scaevola is *membranulae*. For other references to *membranae* in legal writers of the first and second centuries see below, p. 181.

We should be justified in assuming both from the way in which *membranae* are coupled with tablets (as in the passage of Gaius just quoted) as well as from the use to which they were put that the tablet or codex form was in question, and this assumption is supported by a point of linguistic usage, hitherto unnoticed. In Latin usage the singular *membrana* merely denotes the material and says nothing of the form; the plural *membranae* in some cases can mean nothing but a parchment notebook, while in all other cases except one in classical Latin the context at least allows of it.¹ It is probably because *membranae* had already acquired this special meaning in the first century B.C. that when Cicero wants to refer to parchment rolls he calls them διφθέραι² and why Ulpian three centuries later with a lawyer's exactitude uses the expression *volumina in membrana* rather than *membranae*.³ Conversely if a Greek talked of μεμβράναι he would be understood as referring to parchment notebooks; when St. Paul uses the Latin word *membranas* it is because he is referring to a Latin object for which there was no simple equivalent in Greek;⁴ the significance of this will be apparent later. Quintilian writing about A.D. 90 unmistakably employs *membranae* in this sense in a passage in which he is advising students on the best method of taking notes⁵ (*scribi optime ceris, in quibus facillima est ratio delendi,*

¹ The most important passages occur in the lawyers and in Martial and are discussed below. The story of the Iliad *in nuce inclusam* attributed to Cicero (Pliny, *N.H.* vii. 21. 85) is cited to illustrate a case of extremely acute eyesight. Whatever else this book was, its writing was so minute as to make it a freak and, if with Sanders (*op. cit.*, p. 103) we see in it an allusion to the walnut binding of a codex, the whole story would lose its point. That it was also written *in membrana* does not suggest a codex; Schubart (*op. cit.*, p. 114) rightly dismisses the story and remarks that such a *spielerei* would be more likely to be executed in a small parchment roll than in a codex. Where the context is plain the singular *may* refer to the tablet form, as in the passages of Horace and Persius cited above. The only passage in a classical writer where *membranae* is used of parchment rolls is Pliny, *N.H.* xiii. 11. 70, the celebrated passage on the 'invention' of parchment at Pergamum (*idem Varro membranas Pergami tradit repertas*), balancing the 'invention' of papyrus by the Greeks after Alexander's conquests (*sic*). In Christian literature the sole instance known to me is Jerome, in *Ezek.* 47. 21.

² *Ad Att.* xiii. 24.

³ *Digest* xxxii. 52 *prae*f.

⁴ 2 Tim. iv. 13. The word μεμβράναι also occurs in a fragment of Charax of Pergamum in a rationalizing interpretation of the legend of the Golden Fleece (Jacoby, *FGH* ii. A. 103 (p. 482), no. 37: τὸ χρυσοῦν δέρμα μέθοδον εἶναι λέγει χρυσογραφίας μεμβράναις ἐμπεριειλημμένην); but the passage is of no present significance if with Jacoby (ii. C, pp. 312 sq.: for no. 37 see p. 318) we regard Charax as a writer of the early Byzantine age.

⁵ *Inst. Or.* x. 3. 31: cf. *idem* x. 3. 32, where *codicibus mutatis* refers to wax

nisi forte visus infirmior membranarum potius usum exigit . . . relin-quendae autem in utrolibet genere vacuae tabellae . . .). Here the allusion to the wax tablet and the blank pages show that the codex form was in question. With Quintilian we have reached a stage in the history of the codex when it is more than a tablet but less than a book.

Nowhere in classical literature is there a clear reference to a *papyrus* notebook before the third century A.D., though possibly we should infer from an oblique reference in Suetonius¹ that Julius Caesar wrote his dispatches to the Senate from Gaul on papyrus folded in tablet form. More significantly, among the thousands of fragmentary rolls and sheets of papyrus recovered from Egypt and written in the first three centuries of our era, while there are a number of waxed tablets, there is but one notebook on parchment and none on papyrus.² From Dura-Europos, in addition to the folded sheet of parchment we have already noted, comes an extensive papyrus notebook of the third century A.D.³ Dura was then in Roman hands and in the papyrus notebook we may see an adaptation of the parchment prototype. There can be no doubt that this is of Latin origin and we may note in passing that just as there is no equivalent for *membranae*

tablets. It is an interesting fact that the two earliest papyrus notebooks that have survived, one from the third, the other from the fourth century both leave blank pages as Quintilian recommended; the former, P. Lit. Lond. 4 and 182, written in a rough hand, contained Books II–IV of the *Iliad* and a summary of Tryphon's Τέχνη Γραμματική; the miscellaneous contents of the latter are published as PSI i. 23 and 34, and viii. 959/60. (Cf. also note 3 below.)

¹ *Divus Iulius* 56. 6: on the interpretation of this passage see C. H. Roberts in *Journal of Roman Studies*, xxiii (1933), pp. 139 sq. A different interpretation is given by Dziatko, op. cit., p. 124; but this assumes that documents were not normally written in more than one column, and that at this time they were usually written (as they were not infrequently in very early Ptolemaic or in late Byzantine times) across, not along, the fibres. Both assumptions have been abundantly disproved by subsequent discoveries of papyri.

² The parchment notebook (P. Berol. 7358/9), which records names of workers and the moneys paid to them, is mentioned by Schubart, op. cit., p. 174, and is by him ascribed to the second century A.D.

³ See above, p. 173, note 1. The notebook (Dura Parchment V–VII) is described by F. Cumont, op. cit., pp. 309 sq. It was certainly extensive; if Cumont is right in restoring τετρά[διον ἑβδο]μο[v] it consisted of seven quires of fourteen leaves each, but other restorations are possible. It was a real exercise book with miscellaneous contents which include a copy of a law on intestacy and some jottings of a military nature. The verso of each leaf is left blank (cf. p. 176, note 5).

in Greek so there is no one recognized term to translate *codex* in its later and ordinary sense of *book* even in the fourth century when the object itself was certainly familiar.¹ But familiar as we now know it to have been, there is but one reference to it in Greek literature before the fourth century A.D., and even then the terminology is not fixed. The words then used are σωματίον, which translates *corpus* and significantly expresses one of the functions rather than the nature of the codex, πικτίον, a folder or strictly a tablet of several folds which, used almost exclusively by Christian writers, may reflect the usage of an earlier age, and lastly *codex* itself transliterated into Greek.

The one exception to the general silence of Greek literature occurs in a passage of Galen which has escaped the attention of historians of the book.² In his treatise Περὶ Συνθέσεως Φαρμάκων he discusses a preparation alleged to be useful in arresting the spread of baldness, and mentions that his friend Claudianus, himself a celebrated doctor, had come across it in a parchment folder (ἐν πικτίδι διφθέρα) which he had acquired after the owner's death. No writer of the ancient world was more interested than Galen in books and bibliography, and it is significant that in all his writings this is the one allusion to a codex. It may have been no more than a doctor's notebook, but even so this is precisely the kind of use to which on the evidence of the non-Christian papyri we should expect the codex to be put in the eastern Mediterranean.

But by itself the parchment notebook does not take us very far. In the first two centuries of the Empire polite society acknowledged one form and one form only for the book—the roll. Such was the force of convention that even when the codex was in common use for books St. Augustine feels obliged to apologize for writing a letter in codex form and St. Jerome, who remembers he is a gentleman as well as a scholar, writes his letters correctly on rolls, even though he keeps his books in codices.³ The first hint

¹ Zahn, *op. cit.*, p. 64 remarks that σωματίον is too abstract a word to express *codex*; it is the equivalent of *corpus*, and the distinction is nicely illustrated by a sentence of Rufinus: *sancti Cypriani martyris solet omne epistularum corpus in uno codice scribi* (Migne, *PG* xvii. 628). St. Basil, however, writing in A.D. 374/5 uses κώδιξ in a passage where its meaning is made plain by the contrast with the papyrus roll. For τεῦχος, sometimes mistakenly thought to be the equivalent of *codex*, see Schubart's note, *op. cit.*, p. 177; in the glossographers it is the standard equivalent of *volumen* (see Esau, *Glossae ad rem librariam . . . pertinentes* (Diss. Marburg, 1914)).

² *Opera*, ed. Kühn, xii. 423.

³ Augustine, *Ep.* 171; for St. Jerome's practice see H. I. Marrou in *Vigiliae Christianae*, iii (1949), pp. 208 sq.

that the dominance of the roll is to be challenged comes at the end of the first century. We have noticed that Suetonius goes out of his way to mention Julius Caesar's peculiar way of writing his dispatches; the reason why he does so may be found in his contemporary Martial. In his poems we have the first unmistakable reference to publication in codex form.¹ The evidence is confined to II. 1—a poem introducing a revised edition of Books I and II issued together²—and to a number of verses in the *Apophoreta*; all alike fall within the years A.D. 84–86.³ The former runs as follows:

Qui tecum cupis esse meos ubicunque libellos
 Et comites longae quaeris habere viae,
 Hos eme quos artat brevibus membrana tabellis:
 Scrinia da magnis, me manus una capit.
 Ne tamen ignores ubi sim venalis, et erres
 Urbe vagus tota, me duce certus eris.
 Libertum docti Lucensis quaere Secundum
 Limina post Pacis Palladiumque forum.

The presents for the Saturnalia celebrated in Book XIV, which range from slaves and silver plate to dice and toothpaste, include a number of writing tablets and books. Of the former some are made of ivory or valuable woods, one set is said to be of parchment (*pugillares membranei*). Of the books, some are simply described by their titles—Tibullus, Sallust, the *Thais* of Menander—and are clearly papyrus rolls; others, five in all,⁴ have after the name of the author or the work the words *in membranis* or *in pugillaribus membraneis*,⁵ the latter expression emphasizing the small size of the book. If we read these five epigrams as a group we notice that again Martial is at pains to commend the parchment codex to a public unaccustomed to it; again he points out how convenient they are for the traveller, how much space they save in the library when compared with the roll. It has been observed⁶ that the authors who appear in this format are all

¹ The word *codex* is never used by Martial of these parchment books.

² Or possibly of Books I–VII.

³ For the chronology of the epigrams see J. W. Duff in *The Oxford Classical Dictionary* (with bibliography), Friedländer, *Sittengeschichte*, iv (Eng. trans.), pp. 36 sq.

⁴ 184 (Homer), 186 (Virgil), 188 (Cicero), 190 (Livy), 192 (Ovid, *Metamorphoses*).

⁵ Bilabel in *RE* xv. 601 points out that Martial's terminology finds a parallel in *CIL* x. 6. 8, an undated inscription mentioning *pugillares membrancei*; he suggests that it records a gift of books to the temple of Apollo.

⁶ e.g. by Th. Birt, *Die Buchrolle in der Kunst*, p. 31; idem *Abriss*, p. 353.

classics and it is likely enough that the fashionable author or discriminating bibliophile would not favour a format that suggested the lecture room or the counting house. It has also been doubted whether they were more than anthologies.¹ This doubt is certainly misplaced in the case of the Homer and the Virgil (the epigram on the latter would lose its point if an anthology were in question), and the Ovid is explicitly said to contain the entire *Metamorphoses*. The Cicero need have been no more than a selection from the works, but a problem is raised by the Livy. Do the lines

Pellibus exiguis artatur Livius ingens
Quem mea non totum bibliotheca capit.

really imply that a complete Livy had been produced in codex form? It could no doubt have been done in a series of volumes, but the use of the word *artare* raises a doubt, for in later Latin at least this is the technical term for abridgement, and the Livy here may well have been an epitome of the type familiar from the Oxyrhynchus Epitome (P. Oxy. iv. 668).²

One other question which these epigrams raise admits of no answer. The gifts which are the subject of the *Apophoreta* are

¹ Cf. F. G. Kenyon, *Books and Readers in Greece and Rome* (2nd ed., Oxford, 1951). He writes (apropos of the epigram on the Livy), p. 94: 'It is evident from this that these were not ordinary copies of the authors named, but were miniatures of some sort, presumably either extracts or epitomes.' Presumably he has in mind the word *artatur*, though he does not mention it.

² Birt in his *Buchwesen* (pp. 85 sq.) regards these codices as containing the complete works in each case, with the exception of the Cicero where there is nothing in the text of Martial to oblige us to think that anything more than one or two of the works of Cicero were intended; but by the time he wrote the *Abriss* he treats them *all* as epitomes or anthologies, in the face of the clear meaning of the Latin in epigrams 186 (Virgil) and 192 (Ovid). To justify this he appeals (p. 349) to the meaning of the word *artare* and begs the question by assuming that when Martial uses the word of the collected edition of his early epigrams in 1, 2 this re-edition was merely a selection; and for this there is, as far as I know, no evidence at all. *Coartare*, which Birt cites, is used of abridging a speech for publication as early as the younger Pliny (ep. i. 20. 8); but *artare* can properly be used of *compressing* or *confining* (here between the two covers of a book) and we are not obliged to accept the meaning *abridge*.

The most recent discussion of this passage that I know is by R. P. Oliver in *Trans. Am. Phil. Ass.* lxxxii (1951), pp. 248/9. He is prepared to accept them all (including the Livy) as complete works but does not discuss the meaning of *artare*. A complete set of Livy would have been an awkward companion on a journey and while leaving open here the meaning of *artare* I should prefer to think of the Livy as an epitome. Oliver's argument against Kenyon's contention that 'a Christmas present of a complete Livy in 142 books is a *reductio ad absurdum*' (op. cit., p. 94) is valid.

divided into those intended for the rich and those intended for the poor, and the objects are correspondingly expensive or cheap. The epigrams are arranged in pairs; in each pair one epigram describes an expensive present, the other an inexpensive one, but no theory that assumes that papyrus books are necessarily dearer than parchment books or that the opposite is the case can be maintained without rearranging the order of the epigrams; it is in any case highly probable that the order in this book is disturbed. There is no external evidence by which to settle a question that has oddly been much debated. Birt starts from the hypothesis, for which there is no direct evidence, that the codex was the *liber pauperum*; Marquardt and Friedländer argue that papyrus was so universally used that it must have been cheap and that therefore the parchment books were the more valuable.¹ We do not know what was the relative cost of *unwritten* papyrus and parchment at this or any other period, but since we know that parchment was used for students' notebooks by the side of the infinitely reusable tablets and also for the rough copies of the writer while the papyrus roll was kept for the fair copy, we might well expect parchment to be the cheaper of the two materials; as a home-produced ware it would not be subject to the kind of fluctuations that from time to time upset the market in papyrus. But even if, as I think likely, parchment were the cheaper material of the two, we still could not decide which were the more and which the less expensive books unless we knew the quality of the material used, the fineness of the writing, the decoration, illumination, and binding of the volumes; and to all these questions there is and can be no answer.

But these particular volumes would seem to have been designed for the traveller rather than for the bibliophile; reissues of standard authors in pocket format, they were the Elzevirs, if not the Penguins, of their day. They were an innovation; had they not been, there would have been no reason for so emphasizing their superiority to the roll, nor would Martial have gone out of his way in II. 1 to give the address of the publisher where they could be bought. But whether this innovation, marketed jointly by a struggling author and an enterprising publisher, was a

¹ Birt restated his arguments in *Abriss*, pp. 351 sq. in a section headed *Der Codex das Buch der Aermeren*. Marquardt's observations will be found in his *Privatleben der Römer* (2nd ed., Leipzig, 1886), p. 822; Friedländer's reply to Birt's earlier statement of his thesis (in *Buchwesen*, 71 sq.) is elaborated in his edition of Martial (Leipzig, 1886), pp. 299 sq.

success is another question; there are reasons for thinking that it was not, and in that case it cannot be regarded as the most important link between wooden tablet and modern book. But we should first note that Egypt has preserved one fragment of a parchment codex in Latin which may be nearly contemporary with these verses of Martial. The anonymous fragment *De Bellis Macedonicis*¹ has been convincingly attributed, on the ground both of its letter forms and its spelling, to a date not far from A.D. 100 and certainly, as was pointed out by Dziatko long ago,² the use of the codex form is no reason for going counter to the palaeographical evidence. But at the moment this fragment stands alone among the early Latin papyri, admittedly few in number; there is no other instance of a Latin codex from Egypt until the end of the third or perhaps the fourth century, while the ratio of codices to rolls in Greek literary papyri of the second century is, as we shall see, even smaller. This is one reason for doubting whether Martial's pocket codices were a success; but it might reasonably be argued that Egypt provides us with no evidence for the reading habits of Rome and the West were it not for two circumstances. The first is the silence of other writers, in particular of both Plinys, of Galen, and of Lucian (with the one exception in Galen noted above);³ all were bookish men and are well represented by their surviving works, and yet there is but one doubtful reference to the codex among them all. And in this connexion it is worth noting that in the later years of Martial's literary activity there is no further reference either to the parchment codex or to the publisher Secundus.

The second consideration is more important and that is the evidence of the legal writers. Roman lawyers had to decide what the terms 'books' and 'libraries' denoted, particularly when they occurred in wills or bequests. One problem they had to face, how to distinguish between books and an author's manuscript or notes,⁴ does not now concern us, except in so far as the existence

¹ P. Oxy. i. 30 (now P. Lit. Lond. 121). Mallon's article is in *Emerita*, xvii (1949), pp. 1 sq.; see also his *Paléographie romaine*, pp. 77-80, 87 sq. His conclusion though not all his arguments were anticipated by H. A. Sanders (see p. 171, note 4). The next oldest Latin codex from Egypt is P. Ryl. iii. 472 (a liturgical text on papyrus).

² Op. cit., p. 140, note 2; on palaeographical grounds Dziatko placed the fragment in the third century.

³ See p. 173, note 2.

⁴ See the passage cited immediately below. Both St. Augustine and St. Jerome are uncertain whether to classify their letters as books or not, cf. Aug. *Ep.* 214. 2: 219. 4, and for St. Jerome, H. I. Marrou in *Vigiliae Christianae*, iii (1949), pp. 209 sq.

of the question illustrates how easy it was for a parchment notebook to acquire almost imperceptibly the status of a book. One aspect only of their discussions is relevant to our present inquiry: is the codex a book? Ulpian, writing between A.D. 211 and 217, says:¹ 'Librorum appellatione continentur omnia volumina, sive in charta sive in membrana sint sive in quavis alia materia: sed et si in philyra aut in tilia (ut nonnulli conficiunt) aut in quo alio corio, idem erit dicendum, quod si in codicibus sint membraneis vel chartaceis vel etiam eboreis vel alterius materiae vel in ceratis codicillis, an debeantur, videamus. et Gaius Cassius scribit deberi et membranas libris legatis: consequenter igitur cetera quoque debebuntur, si non adversetur voluntas testatoris.' Then, after discussing whether a bequest of *libri* covers unwritten papyrus rolls (*chartae*) and parchments (*membranae*), he adds:² 'Unde non male quaeritur, si libri legati sint, an contineantur nondum perscripti. et non puto contineri, non magis quam vestis appellatione nondum detexta continetur. sed perscripti libri nondum malleati vel ornati continebuntur: proinde et nondum conglutinati vel emendati continebuntur: sed et membranae nondum consutae continebuntur.' It is clear that for Ulpian only the roll was fully a book, but it is equally clear, particularly from the latter quotation, that the codex will not be long denied its place. Indeed his contemporary and rival in the law, Paulus, goes further and defines the book in such a way that the codex is at last admitted on terms of equality with the roll (if we may accept the attribution of the *Sententiae* to him):³ 'Libris legatis tam chartae volumina vel membranae et philyrae continentur: codices quoque debentur: librorum enim appellatione non volumina chartarum, sed scripturae modus qui certo fine concluditur aestimatur.' The book is now defined, and well-defined, as a self-contained unit, independent of material or format; with this judgement the codex has arrived, but it has still to become fashionable.

The law admittedly is not always quick to recognize a new situation; but the fact that nearly 150 years after Martial wrote the definition of a book was still in dispute indicates that his

¹ *Digest* xxxii. 52 pref. The Cassius whom he quotes is Gaius Cassius the jurisconsult who was consul in A.D. 30 and died under Vespasian; the *membranae* he refers to are no doubt the writer's notebooks; the *et* indicates that with them we are a stage yet further removed from the proper book, the papyrus roll.

² *Ibid.* 5.

³ iii. 6. 87. The passage is attributed without question to Paulus by L. Wenger, *op. cit.*, p. 91; for the question of the *Sententiae* see *ibid.*, p. 302 n.

venture was not a success. In the second century A.D. Greek influence in Roman cultural life was perhaps more marked than at any other time; an invention of the practical Latin genius in the field of literature (where convention, we may suspect, governed the form in which a book appeared no less strictly than it did its composition) was in consequence at a discount. Since we have no reason to think that the reading habits of the Greek literati of Alexandria and the Egyptian metropoleis differed significantly from those of the rest of the Greco-Roman world, we are entitled at this point to call on the evidence of the literary papyri.

But before we do so two misunderstandings should be cleared out of the way. To the argument that Egypt as the home of papyrus might well go on using the papyrus roll long after the rest of the world had taken to the parchment codex, we can reply that the assumption that rolls were normally and originally made of papyrus and codices of parchment is mistaken. We have already noted that when Euripides wishes to lend an air of remote and hieratic antiquity to Apollo's oracles he writes of 'ink-dipped skins'¹ (much as an eighteenth-century romantic would talk of 'antique parchment scrolls') and Herodotus certainly implies that leather rolls had been in common use in Asia. It is true that in the Greco-Roman world their use was probably confined to the eastern part of the Empire with the exception of Egypt where papyrus would be easily and cheaply available and skins would be scarce.² Equally, papyrus could be used for codices. The discovery of early Christian codices in Egypt has so taken scholars by surprise that the survival of a few papyrus codices in European libraries³ (not known to be of Egyptian origin) and the

¹ Quoted in note 1, p. 172; with this we may compare the story in Plutarch, *De Facie Lunae* (*Moralia*, 942 c) of the discovery in Carthage of a διφθέρα ἱέρα, and also the retention by the Jews of the leather roll for the Law long after they had adopted the papyrus roll for ordinary purposes (this may date from Ezra's dedication of the Tora in 458 B.C., see C. Wendel, *Die Griechisch-Römische Buchbeschreibung* (Halle, 1948), pp. 87 sq.). For a late use of the parchment roll see Jerome in *Is.* 18. 1. (p. 286).

² There is only one certain example among the Greek papyri found in Egypt of a parchment roll used for a work of Greek literature, P. Ant. i. 26; P. Berol. 10569 (Homer: 3rd c. A.D.) may have been written on an isolated sheet of parchment as may P. Ryl. i. 29 (medical receipts: 3rd c. A.D.). P. Lit. Lond. 2111 (Daniel: first half of fourth century) almost certainly belongs to a parchment roll. For the use of parchment rolls for official papers, see Wendel, *op. cit.*, p. 91.

³ A list is given by E. Maunde Thompson, *Introduction to Greek and Latin Palaeography* (Oxford, 1912), p. 27 of papyrus codices of Latin authors.

references to the use of papyrus for codices in legal writers¹ as well as in Jerome² and Cassiodorus³ have escaped their attention. This is sufficient evidence that the papyrus codex does not merely represent a transitional stage⁴ in the development of the codex nor is it merely an 'ersatz'⁵ for the parchment codex.⁶ It is true that, as far as we can see, the new form of book began with parchment and not with papyrus, in the west and not in the east, but we should not think that when the change from roll to codex came it necessarily implied a change from one material to the other. Parchment is indeed the more appropriate material as the occasional use of parchment strips down the central fold of a sheet in a papyrus codex or the use of protective sheets of parchment indicates; but in itself papyrus is strong, pliable, and adaptable. Galen talks⁷ of having handled rolls 300 years old and does not imply that they were great rarities, and in the early empire durability was not the essential quality in the making of a book that it was to become some four or five hundred years later. Both parchment roll and papyrus codex were familiar at different periods throughout the Greco-Roman world, though the one could not compete in popularity with the papyrus roll nor the other with the parchment codex. There is no essential connexion between format and material, just as there is none between either and the styles of writing; a 'papyrus style' as opposed to the style of 'the formal uncials' is a palaeographical phantasy of the nineteenth century.⁸

In considering the evidence from Egypt I shall exclude for the time being all Christian literature. The figures given below⁹

¹ Cf. the passages quoted above p. 181, also p. 173, note 6.

² *Ep.* 71. 5: *opuscula mea descripta in chartaceis codicibus*, cf. also *Ep.* 5. 22 where he asks for a Tertullian written *librarii manu in charta*; a papyrus codex would of course be much lighter than one written on parchment.

³ *Inst. Div.* 8: *Hist.* 2. 16.

⁴ Kenyon, *op. cit.*, pp. vi and 87. Schubart also (*op. cit.*, p. 113) greatly underrates the importance of the papyrus codex but he was writing before most of the early Christian codices on papyrus had been found.

⁵ Zuntz, in *Theologischer Literaturzeitung*, 1951, col. 162.

⁶ Cf. the passage in Maunde Thompson cited above (p. 182, note 3).

⁷ ed. Kuhn, xviii. 2, p. 630.

⁸ This mistaken notion will be found throughout Kenyon's *Palaeography of Greek Papyri* (Oxford, 1899); it even survives in the publications of the *New Palaeographical Society* (see Table of Contents to Series I).

⁹ In compiling these figures I have used my own notes, corrected and largely supplemented by Pack's Catalogue (see p. 169, note 1). To the best of my belief they are complete to the end of 1952. For dating I have relied on the dates given by the original editors, occasionally controlled by a plate or

include all Greek literary and scientific writings but omit school exercises, single sheets, and mathematical tables—anything in short that is not a book. From the second century we know of 465 rolls and 11 codices; of texts placed on the borderline between the second and third centuries we have 208 rolls and 6 codices; in the third century we find 297 rolls and 60 codices, among texts doubtfully ascribed to third or fourth century 28 rolls and 26 codices, in the fourth century 25 rolls and 71 codices. If we translate these figures into percentages of codices to rolls we get the following results:

Second century	.	.	.	2.31 per cent.
Second/third century	.	.	.	2.9 „
Third century	.	.	.	16.8 „
Third/fourth century	.	.	.	48.14 „
Fourth century	.	.	.	73.95 „

From these figures it is clear that the codex scarcely counted for Greek literature in the second century. None the less, the figures serve to correct the accepted view for, apart from the British Museum Demosthenes and the Berlin *Cretans* (both of which are on parchment, not papyrus), scholars have usually regarded it as axiomatic that for pagan literature in contrast to Christian the codex was not used in Egypt in the second century.¹ There are in fact eleven instances of this practice, including the two texts on parchment just mentioned.² The earliest of the group

photograph. I have seen either the original or a photograph of the 11 second century texts except in two cases where it proved impossible (marked by an asterisk in the list in note 2 on this page).

¹ I may instance Kenyon, *op. cit.*, p. 111 ('Among all the papyri discovered in Egypt which can be assigned to the second century . . . no single pagan manuscript is in codex form') and my own statement in 'The Christian Book and the Greek Papyri' (*Journal of Theological Studies*, 1 (1949), p. 158: 'in the second century there are only two doubtful cases known of the use of the codex for pagan literature and both books were written on parchment, not papyrus.' There was no excuse for such a misstatement; the reason for it may have been that the texts in question, with the exception of the two parchment codices (whose second century date I should now accept), were, unlike the early Christian texts, intrinsically of little importance.

² The nine papyrus codices are:

- (a) P. Flor. ii. 115 (philosophical manual): dated first to second century by the editors, but the hand is of characteristic second-century type.
- (b) P. Berol. 9015 = *BKT* iii, p. 29–30 (medical treatise): dated first to second century by the editors.
- (c) P. Harr. 119 (Homer, *Iliad* ii): I should place this in the later second century and regard a date in the third as not excluded.
- (d) PSI ii. 147 (Pindar, *Paeans*).

are probably a medical manual in Berlin and a manual of philosophy in Florence; of the rest two are texts of Homer (of which one is in a cursive hand and is almost certainly a school text), one a text of Achilles Tatius with more than 40 letters to the line and more than 30 lines to the page, another a text of Pindar, another a collection of 'Orphic' poems. There remain the two parchment codices and two technical texts—a medical treatise and a grammatical handbook full of abbreviations. The high proportion of technical or professional texts is worth noting, as is the fact that several of the others are clearly designed to pack as much text as possible into the available space.

In the pagan world of the second century the codex has barely a foothold. In the contemporary Christian world the case is very different and it is to this that we must look for the origins of the modern book. There are 111 biblical manuscripts or fragments of manuscripts from Egypt,¹ thought to have been written before the end of the fourth century or not long after it, 62 of them from the Old Testament, 49 from the New. Of these 111 texts 99 are written on codices, 12 only on rolls. A closer examination makes the contrast even sharper. For of the 12 rolls 5 are opisthograph, i.e. the biblical text is written on the back of a roll already used for some other purpose; consequently these, whether private copies or school texts, are not evidence of a preference for the

- (e) *PRIMI i. 15 (medical text): the recto has 37 lines, the verso 32.
- (f) Achilles Tatius, ed. A. Vogliano in *Stud. It. fil. Class.*, 1938, p. 41; his attribution to the second century was confirmed by Schubart.
- (g) *P. Bon. 24 (Homeromanteion together with an 'Orphic' poem).
- (h) PSI vii. 849 (grammatical manual).
- (i) P. Harr. 59 (grammatical manual, a pocket book not more than 12 cm. high): I should assign it to the late second century or possibly to the third.

In addition there are the two parchment codices, Euripides, *Cretans* (P. Berol. 13217 = *BKT* v, pp. 73 sq.) and Demosthenes, *De Falsa Legatione* (P. Lit. Lond. 127). As the figures given are for Greek literature I have not included the fragment *De Bellis Macedonicis* (see p. 180, note 1). P. Vindob. Graec. 26751 (very briefly described in *Archiv für Bibliographie*, viii (1926), p. 90 by H. Gerstinger) is said to be a codex and placed in the first century, but the description of the hand as a large, round uncial and of the ink (said to be of the dark brown variety which is characteristic of Byzantine manuscripts and is not known to have been used before the late third century) make it plain that this is a slip on the editor's part.

¹ No complete register of the biblical fragments found in Egypt has as yet been published, but I have been able to make use of an excellent catalogue compiled by Mr. P. L. Hedley in 1934 and have listed all texts published since then. I have slightly revised in a conservative direction the figures given in my article in *The Journal of Theological Studies* referred to in p. 184, note 1.

roll over the codex since the scribe had no choice before him. This reduces the number of genuine rolls to 7; of these 3 are probably Jewish, 3 more possibly so;¹ the only one that is certainly Christian is a roll of the Psalms. No early text of the New Testament known to us was written on the recto of a roll.

If we analyse the figures further we find that 8 of the 111 may be assigned to the second century, 2 to the borderline between second and third;² all these ten are written on papyrus, all are codices; almost certainly all are Christian rather than Jewish. In the third century we find 7 parchment texts against 34 papyrus; in the fourth century we have 34 parchments and an identical number of papyrus texts. So when the Christian Bible (to use a slightly anachronistic term) first makes its appearance in history, the books of which it is composed are always written on papyrus and always in codex form. There could not be a greater contrast with the pagan book of the second century, and this contrast is the more remarkable when we recall that the country where these early texts were found was where the roll originated, and in which parchment (with which the codex began) was scarce. We can only surmise what the reasons were for this break with ordinary practice. Economy is unlikely to have been among them, for although it is true that the codex uses only half as much papyrus as does the roll since both sides are written on, yet it would have been as cheap to use the backs of discarded rolls (the recognized form of cheap paper in the

¹ On the criteria for distinguishing Jewish from Christian books see *The Journal of Theological Studies*, 1 (1949), p. 157/8.

² The Christian biblical papyri that may be assigned to the second century are:

- (a) P. Ryl. iii. 45. 7 (St. John)
- (b) P. Baden 4 (Deuteronomy)
- (c) P. Ryl. i. 5 (Titus)
- (d) P. Oxy. iv. 656 (Genesis)
- (e) P. Lips. 170 (Psalms)
- (f) Chester Beatty Papyrus VI (Numbers and Deuteronomy)
- (g) P. Ant. 7 (Psalms)
- (h) Magdalen College Papyrus, ed. C. H. Roberts in *The Harvard Theological Review* (1953), pp. 233 sq. (St. Matthew).

Two papyri that I should place on the borderline between the second and third centuries are Chester Beatty Papyri IX and X (a single codex of Ezekiel, Daniel, and Esther) and VIII (Jeremiah). Schubart (op. cit., p. 185) would also place P. Oxy. viii. 1074 (Exodus) in the second century, but I should prefer to follow the original editors in attributing it to the third century. On the date of (c) and (d) in the above list see H. I. Bell and T. C. Skeat, *Fragments of an Unknown Gospel*, p. 6; cf. also C. H. Roberts in *The Journal of Egyptian Archaeology*, xl (1954), p. 93.

contemporary world),¹ and early Christian codices are not conspicuous for the smallness or closeness of their writing.² No doubt travellers and missionaries found a codex more convenient to carry (as Martial's readers were meant to), more convenient to conceal;³ certainly they were easier to refer to, and ease of reference must have meant much to the Christian apologist arguing with a Jew on the interpretation of the Scriptures.⁴ But to my mind none of these is a sufficient explanation; so striking an effect must have had a cause of comparable weight.⁵

The papyrus codex must have been an imitation of the parchment notebook and this, as we have seen, was of Roman origin and was used in Italy at a time when it was unknown in Egypt and (as far as we know) elsewhere in the East. The first two generations of Christians may be described in general as literate but not literary, and the form in which their writings circulated would have been quite uninfluenced by the practice of the Greco-Roman book trade. If we may make the common assumption that the second Gospel was the first to be written and that, as tradition records, St. Mark reduced to writing his own or St. Peter's reminiscences before or not long after St. Peter died in Rome, we can take the argument a stage farther. The circle in which he moved in Rome—Jewish and Gentile traders, small business men, freedmen or slaves—would use waxed tablets or parchment notebooks for their accounts, their correspondence, their legal and official business, and it would

¹ See below p. 194 for the numbers of literary papyri written on the back of rolls already used, and, for the commonness of the practice, Martial iv. 86 and viii. 62.

² For Christian literature other than biblical see below, p. 192.

³ For what was probably a third-century missionary's *vade mecum* containing extracts from the Acts of the Apostles see C. H. Kraeling in *Quantulacunque*, pp. 163 sq.

⁴ The earliest manuscript of a Book of Testimonies is a fourth-century papyrus codex (P. Ryl. iii. 460).

⁵ The credit for first making a detailed study of the format (as well as of the text) of the papyrus fragments of the New Testament and for raising several of the questions I have discussed in the preceding pages belongs to Mr. P. L. Hedley whose articles on 'The Egyptian Texts of the Gospels and Acts' in *The Church Quarterly Review*, cxviii (1934), pp. 23 sq. and 188 sq., have not always had the attention they deserve. Here I would only note that he writes (p. 227): 'I think that Christian Biblical MSS. were habitually written from the beginning of the second century in codex form—perhaps earlier', and on p. 228: 'the absence of the codex form from early non-biblical papyri shows that the form was derived from Christian circles outside Egypt'. The premise of this last argument needs correcting, but the inference is, I believe, correct.

be natural that St. Mark should use the same format for a work intended to be copied but not to be published as the ancient world understood publication. The Christian papyrus codex which we know from the early second century must have had a parchment predecessor and this is more likely to be traced to Rome than elsewhere. In Christian circles there the Jews would be accustomed to leather rolls of the Law, and at this early date St. Mark's reminiscences would scarcely be thought of as a complement, let alone a rival, to the Law. Moreover, we know from Jewish sources¹ that while the Oral Law, the Mishnah, could not be formally published in writing, isolated decisions or rabbinic sayings might be and were put down on tablets (πίνακες) or on what the Mishnah calls 'small private rolls'.² The Jews would be accustomed to the former since Jewish children started their education as did Gentile children on tablets and continued to use them for private memoranda. So the disciples of Jesus would write down His sayings as part of the Oral Law either on writing tablets or on small rolls; a decision quoted in the Mishnah,³ said to be not later than the middle of the second century, mentions three kinds of tablet, that filled with wax, that with a polished surface, and that made of papyrus, of which only the second fulfils the ceremonial requirements. This usage, while it does not explain the exclusive use of the codex by Christians in the second century, since the small roll might equally well have been employed, makes it easier to understand why they adopted the parchment notebook when they met it in Rome.

A late tradition associates St. Mark with the foundation of the Church of Alexandria; whatever may lie behind this legend, there are certainly grounds for thinking that the origins possibly, the associations certainly, of the Alexandrian Church were western rather than eastern.⁴ Supposing St. Mark's notebook to

¹ For the following discussion of Jewish writing habits I am greatly indebted to Appendix III of S. Lieberman's *Hellenism in Jewish Palestine* (New York, 1950) on 'Jewish and Christian Codices' (pp. 203 sq.). It may further be noted that in writing the Oral Law on a tablet the form itself would indicate that no real publication was intended and that to publish in the form of a roll might be regarded as a transgression of the Law. Hence St. Matthew or St. Mark might well have used the notebook; St. Luke the Gentile, who was clearly publishing in the accepted sense of the word, would have no scruples about using the roll. On publication and the Oral Law see Lieberman, *op. cit.*, pp. 84 sq.

² References to the sources are given by Lieberman, *op. cit.*, p. 87.

³ *Kelim*, xxiv. 7 (*The Mishnah*, translated by H. Danby (Oxford, 1933), p. 639); for the date see Lieberman, *op. cit.*, p. 203.

⁴ See most recently E. R. Hardy, *Christian Egypt* (New York, 1952), pp.

have reached Egypt, it would have been copied on papyrus rather than on parchment since the former was so much easier to come by. Why the notebook format was retained and on material not at that time commonly used for such a purpose it is harder to see. But we may guess that when his Gospel circulated it already enjoyed a measure of authority, and so the form itself, not least because, as the years went by, it stood in sharp contrast both to the Jewish Roll of the Law and to the pagan book, acquired a sentimental and symbolic value as well as a practical one. This may seem far-fetched, but we have to explain why not merely the Gospels but all distinctively Christian literature, Old Testament as well as New, was copied and circulated in the codex form. Something must have occasioned this breach with tradition and we may surmise that it was the position enjoyed by the second Gospel as the earliest of authoritative Christian writings to reach Egypt. Whatever the cause, the process of adapting the codex form to receive all texts both of the Old and the New Testament used in Christian communities in Egypt was complete, as far as our present evidence goes, before the end of the second century if not earlier. For the second Gospel (or any other Christian writing) to establish itself and, once established, to exercise so marked an influence on other Christian literature (even on the third Gospel and Acts whose original format would certainly have been the roll) must have taken time; so universal is the use of the codex by Christians in the second century that the beginnings of this process must be taken back well into the first century. For religious history it is significant that Christian book production should have severed itself from Jewish by the middle of the second century; for even if the occasional use of the writing tablet by the Jews for recording the Oral Law influenced the first generation of Christians in their choice of the codex, yet the transcription of the Pentateuch on to the codex shows how complete the severance was. It is worth noting that the practice of writing in double columns, which is often said to be characteristic of early codices¹ and an indication that the book in question had been directly copied from a roll, is found more frequently in Christian manuscripts of the fourth century than in those of the second or third, and is commoner in manuscripts of the Old Testament (as would be expected if our

11 sq. and 28-29, and C. H. Roberts in *The Journal of Egyptian Archaeology* xl (1954), p. 92.

¹ e.g. Kenyon, *op. cit.*, p. 116; for an explanation of the use of double columns in fourth-century manuscripts see below, p. 201.

argument is correct) than in those of the New; six of the eight biblical papyri of the second century are written in single columns.¹

Such a hypothesis of the origin and influence of the second Gospel, or of the first two Gospels, if we accept the possibility that the first was written on tablet form under Jewish influence,² would go some way to solve the problem set by the early Christian codices from Egypt; it may even receive some support from the New Testament itself. Firstly, we may note that, if we believe St. Mark's Gospel to be incomplete, the loss is more intelligible if the original was written in a codex, since in a codex the last leaf is the most exposed to damage while the last column of a roll is the best protected.³ Secondly, we have noted that *membranae* in Latin commonly denotes the parchment notebook and that there is no exact equivalent in Greek since διφθέραι would denote parchment rolls. When therefore St. Paul⁴ asks Timothy to send him τὰ βιβλία, μάλιστα τὰς μεμβράνας there is every reason to think that he is using the Latin word in the Latin sense. The βιβλία would be books in the then accepted sense, perhaps rolls of the Septuagint, and the importance he attaches to the μεμβράνας makes it unlikely that they contained jottings of a practical nature, lists of addresses, and the like. They may have contained drafts for his own work, but it is at least possible that the book in question was one of the earliest Christian writings. Among

¹ The two exceptions are (*f*) and (*h*) in the list given in p. 186, note 2. Too much weight should not be attached to the argument since we cannot be certain what pagan practice was. Of the texts listed in p. 184, note 2 the three poetic texts are written in a single column as poetic texts always were; of the prose texts the Achilles Tatius is in double columns, but none of the other five is sufficiently extensive (all being hitherto unknown texts) to allow of the point being decided. Of the two second-century parchment codices the Euripides is in single columns, the Demosthenes in double.

² There is, however, no ground for thinking that the tablet used by Jews was ever larger than the ordinary wooden tablet, i.e. it would not have been nearly capacious enough to take a Gospel. It looks as though the influence of the Roman *membranae* was necessary before this development could take place, and there is no reason for connecting the first Gospel with Rome.

³ See C. H. Roberts, 'The Ancient Book and the Ending of St. Mark' in *The Journal of Theological Studies*, xl (1939), p. 253, and for the latest discussion of the problem as a whole Vincent Taylor, *The Gospel According to St. Mark* (London, 1952)—brief, but with a valuable bibliography.

⁴ This is not the place to discuss the authenticity of the Pastoral Epistles, but even on a radical view it seems very probable that they incorporate genuine material, perhaps brief letters (of the scale of the Epistle to Philemon) which were then expanded by the editor. Certainly there could be no doctrinal or theological interest in attributing such a remark as this to St. Paul if he had not written it.

such would have been a Book of Testimonies, i.e. an anthology of passages of the Old Testament, which could be used to support Christian claims, but the possibility that it was the second Gospel or a predecessor of it cannot be excluded.¹

One important aspect of these discoveries has long been recognized, their significance for the history of the Christian Canon. Nearly seventy years ago Theodor Zahn remarked² that codification was the visible and tangible expression of canonization and that had there been codices in Irenaeus' day which contained all the Bible or even all the New Testament, and had such codices survived, the history of the Canon could be much more briefly written. We now know that all four canonical Gospels were known to the author of the Gospel of Peter before A.D. 150,³ and possess Christian codices in all probability earlier than this, but we are not much nearer to a solution of this problem. It is true that in Chester Beatty Papyrus VI we have a codex of Numbers and Deuteronomy from the middle of the second century large enough to contain three out of the four Gospels and that in Chester Beatty Papyrus I we possess all four Gospels and Acts in a single codex of the first half of the third century; but as yet we have nothing comparable for the second century, and even in the third no instance of a Christian codex larger than the one I have just mentioned.⁴ The greater capacity of the codex

¹ Dziatko (op. cit., pp. 136 sq.) in a lengthy discussion of the passage concludes that they were not parchment codices and that they were something quite different from the βιβλία; they contained (in his opinion) either drafts of St. Paul's own work or memoranda in which were included *Erzählungen von Personen aus der Umgebung des Herrn* (wie die Λόγια Κυριακά). He fails, however, to observe that, if they were not parchment codices in the sense of books, yet the Latin word implies the Latin form; because there was (in his opinion) a Greek equivalent to μεμβράναι, he mistakenly concludes that the use of the Latin word means that Latin was the writer's native language. ² *Geschichte der NT. Kanons*, i, p. 60.

³ See C. H. Turner in *The Study of the New Testament* (Oxford, 1924), pp. 12-13, and idem in *The Journal of Theological Studies*, xiv (1913), pp. 161 sq. F. C. Burkitt in *Two Lectures on the Gospels* (Cambridge, 1901), pp. 17 sq. argues that on textual grounds we must assume the existence of a single interpolated edition of the four Gospels not later than A.D. 150. (I owe this reference to P. L. Hedley's article quoted above, p. 228.)

⁴ Thus the present evidence does not support Mr. Hedley's contention (op. cit., p. 228) that the use of the codex in the early Church 'was associated with the formation of the fourfold Gospel canon' and that 'with the codex went a canonical text' (for an example of differing texts in the papyri see *Harvard Theological Review* (1953), p. 237). Hedley's article antedated the publication of the Rylands St. John and future discoveries may yet substantiate his first contention, but I should add that in a letter to me of 4.1.50 Mr. Hedley writes that he now regards both suggestions as 'fantastic!'

does not appear to have been one of its initial attractions, and the Rylands St. John can hardly have held more than the one Gospel which would have demanded, given the scale of the writing, 150 pages. Even later the one volume Bible was always something exceptional; Zahn acutely observes¹ that in some Martyr Acts of the Diocletianic persecution such a codex (a *codex pernimius maior*) is kept in the Treasury of the Church and is not in the hands of the Lectors, and comments that it is a *Prächtstück* (or we might almost say a cult object) rather than a book to be read. The papyri have, however, shown that a papyrus codex of the four Gospels in the second century is not the impossibility it was thought to be fifty years ago.

We should expect other Christian literature to be influenced by the example of the Christian Bible, but here the use of the codex is by no means so invariable as it is with the Bible, in itself an indication that there was some special value attaching to the copying of the Bible in codex form. Of the six earliest Christian texts which are not manuscripts of the Bible three are rolls and three are codices,² and it is not surprising that as Christian scholarship and theology develop the format of pagan scholarship is borrowed along with its technique. Origen in the third century refers to and himself used codices of the Bible, but his own works were written on rolls as were some of St. Jerome's in the next century.³ If further evidence were required that out-

¹ Op. cit., p. 70. Here and in the following pages he has some very interesting comments on the various divisions of the Bible current in the fourth and subsequent centuries; thus Augustine used a codex which contained nothing but Exodus, Jerome had a single volume Pentateuch, Cassiodorus the entire Bible in nine codices. With the New Testament the usual practice was to keep the four Gospels in one codex, the Pauline epistles in a second and the rest of the New Testament in a third. The Martyr Acts are quoted in the *Gesta apud Zenophilum* (text printed as an appendix to the works of Optatus in *C.S.E.L.* xxvi, pp. 185-96).

² These six texts, of which the first two may be regarded as definitely second century, the next three on the borderline between second and third centuries, and the last definitely third century, are:

- (a) P. Egerton 2 (the British Museum Unknown Gospel: codex)
- (b) P. Fay. 2 (Gnostic Psalm; roll)
- (c) P. Oxy. i. 1 (Logia; codex)
- (d) P. Oxy. iii. 405 (Ignatius, *Adversus Haereses*; roll)
- (e) P. Oxy. iii. 406 (unknown theological text, perhaps Origen: codex)
- (f) P. Oxy. iv. 654 (Logia: on the verso of a roll)

As the last is written on the verso, it is no evidence of a preference for the roll.

³ In *De Vir. Ill.* 85 St. Jerome relates how he saw the autographs of the Hexapla in Caesarea—'volumina quae tanto amplector et servo gaudio'.

side the Christian communities the codex had not really established itself by the end of the third century, it can be found in the monuments. Since Christian art necessarily employs pagan technique and some pagan motifs, the figures of readers on Christian monuments scarcely differ from those on contemporary pagan monuments, and when it became the fashion to represent Christianity as the *vera philosophia*, the Christian sage is portrayed holding a roll, as does his pagan counterpart.¹ Of the very few exceptions the most striking is one that proves the rule. On a third-century painting in the Catacomb of St. Peter and Marcellinus² stands a figure holding open to view a large codex; while the neighbouring figures are strictly classical in their treatment and hold rolls, the treatment of this figure is markedly free and non-classical.

Before leaving the subject of the early Christian book, it is perhaps worth remarking that, when the Coptic language began to be written in the middle of the third century, the Coptic manuscripts follow closely the precedent of the Greek. Dr. P. E. Kahle informs me³ that there is no certain instance of a normal roll in Coptic literature and that against two opisthograph rolls we have to set, up to the end of the fifth century, 130 codices. Of these 58 are on papyrus, 72 on parchment; 83 are written in single columns. The three earliest manuscripts (dated to the third/fourth century) are all on papyrus and all have but one column to the page. This is much what we should expect, since Coptic Christianity derived from Greco-Egyptian. There are, of course, in Coptic no such early fragments as there are in Greek, but no Greek manuscript, not even the Chester Beatty papyri, gives so good an idea of the early codex as the great find of Coptic codices made at Nag-Hammādi in 1947: one of the thirteen codices (from which a total of 794 pages survive) is said

For examples of St. Jerome's use of the codex in his own work see Augustine *Ep.* ii. 40, c. 2 (= Migne, *PL.* xxxv. 155); in his own letter 7 c he mentions that his works are to be copied for Spain in *chartaceis codicibus*.

¹ See H. I. Marrou, *Mousikos Aner* (Grenoble, 1937), pp. 269 sq.

² First published by J. P. Kirsch in *Rivista di Archeologia Cristiana*, vii (1930), pp. 32 sq.: cf. also R. Vieillard, *ibid.* xvii (1940), pp. 145 sq. The only other exceptions to the use of the roll in early Christian monuments are the hypogaeum of Trebius Justus where codices, roll, and capsā are all represented (it is thought to be a Gnostic monument, cf. Marrou, *op. cit.*, pp. 51 and 281, n. 43), and in the Catacomb of Domitilla where a codex is shown close by the figure of Veneranda being introduced to Paradise by St. Petronilla (see Cabrol-Leclercq, *Dict. Arch. Chrét.* i, col. 1515, fig. 360).

³ I am much indebted to Dr. Kahle for letting me see before publication his detailed study of Coptic manuscripts.

to be not later than *c.* A.D. 250, and some have their leather bindings with the fastening strings still intact.¹

In the comparative figures given above of codices and rolls among non-Christian literary texts from Egypt the proportion of codices to rolls rose sharply from 2.3 per cent. in the second to 16.8 per cent. in the third century; the reason for this will be clearer if we scrutinize the figures more closely. We have seen that the verso of the roll was not infrequently used for inferior writings of any kind; the fate of an unsuccessful work was not to be pulped or remaindered, but (if it was not used as wrapping paper) to carry a school text on the verso.² The figures for opisthograph rolls of literary works are very instructive. In the second century they constitute 10.3 per cent. of the total of rolls, of texts assigned to the borderline between second and third 27 per-cent., of third-century rolls 33 per cent. There is no particular change in the character of the literary texts recorded on the verso of these rolls, and we are driven to conclude that the reason for the growth of this practice was the desire to economize in papyrus. It is true that in the fourth century we know of 21 ordinary rolls and 4 opisthograph rolls; both the absolute numbers and the percentage are much lower than those for the third century from which the numbers are 206 and 91, but the reason for this is immediately apparent when we recall that in the fourth century there are 75 codices against 25 rolls; the opisthograph roll is only dropping out because the roll is itself giving ground to the codex. For pagan literature both codex and opisthograph roll are a means of getting more text on to a given amount of papyrus, and of the two methods the codex is clearly the more efficient; the figures let it be seen that here the reason for the adoption of either method was in the first instance economic.

Many of these third-century pagan codices have a number of characteristics in common. The majority are prose works; in contrast to the early codices of the New Testament they are often written with more than one column to the page, suggesting that the transference from the roll with its narrow columns was

¹ See J. Doresse and T. Mina in *Vigiliae Christianae*, iii (1949), pp. 129 sq. and Doresse in *Archaeology*, 1950, pp. 69 sq.

² By no means all texts written on the verso should be considered school texts; some are private copies, and some, as Grenfell and Hunt pointed out long ago (P. Oxy. ii, p. 97, n. 1), were doubtless intended for sale. A few of them are as calligraphic as any texts written in the usual way on the recto. Many, of course, are on the verso of documentary rolls.

of recent date; pagination (almost unknown in the roll)¹ is so frequent as to be nearly invariable. For example, there is in Manchester² a page from a third-century codex of Xenophon's *Cyropaedia* which contained the entire work in about 300 pages (it occupies one fat volume in the Oxford Classical Texts, two in the Loeb Library, and would probably have filled seven rolls); in the Antinoopolis collection there is a Thucydides of the same date, type, and dimensions.³ We may recall that in the next century the orator Libanius possessed a one-volume Thucydides 'elegant in script and light to carry' so that although he was invariably accompanied by a slave he preferred to carry it himself.⁴ This was, however, in all probability, more of a *de luxe* edition than the more utilitarian third-century codices from Egypt. These now existed to satisfy the desire for collected and handy editions, particularly of the bulky prose authors, and this development may plausibly be connected with the general decline of economic and cultural life in the third century. These codices are the omnibus volumes of a poverty-stricken age in which fewer and fewer people would be able to build and maintain private libraries. It is significant that most of them are either of standard authors or of technical works essential to professional men. Among these last medical books are naturally prominent; we may recall that several of the second-century codices listed above were of medical works, which is what Galen's reference⁵ to the leather notebook would lead us to expect. How common it was for medical works to be published in codex form comes out very clearly from an account St. Augustine gives of the proceedings of a Donatist Council which was inquiring into the conduct of alleged *traditores*.⁶ (The surrender of the books in question took place during the Diocletianic persecution in A.D. 303.) A certain Donatus replies to the bishop's accusation *Dicitur te tradidisse* with *Dedi codices medicinales*. To the police agents, probably illiterate, who would have been told to

¹ As examples of rolls with numbered columns may be cited P. Oxy. iii. 412, *ibid.* iv. 657 and PSI xii. 1284; the second of these, a manuscript of the Epistle to the Hebrews, is written on the verso of another literary text, and the numeration may have been taken from a codex from which the text was copied. All are subsequent to the invention of the codex, from which, if not from the numbered documents in an administrative file, the practice may have been borrowed.

² P. Ryl. iii. 549; another fragment of the same manuscript had been previously published as P. Varsov. 1.

³ P. Ant. i. 25.

⁴ *Orat.* i. 148.

⁵ p. 176.

⁶ *Contra Cresconium*, iii. 27. 30 sq.

search for codices, one codex would be as good as another; medicine seems to have been the obvious alternative to theology.

At this point in the development of the codex it should be noted that another factor has become of importance: the need for a book that can be readily consulted (also observable in the history of the Christian codex), itself an expression of an increased reliance on authority. This development can be seen most clearly in the Law. The parchment notebook had long been useful to the lawyer; the *Digest* indeed¹ refers to the *liber sextus membranarum* of a first-century jurist, Neratius Priscus, and some scholars have thought to see in this a very early reference to a codex. But it is much more likely that *membranae* here is a title; *membranae* were so familiar in court that to use it in the title of your work was equivalent to calling it *Jottings from a Lawyer's Notebook*.² That it was not more than this we have the evidence of the legal definitions, already quoted, of Ulpian and Paulus, and there is every reason to think that in this field as in others the change came in the third century. The first reference to the codex, indeed the earliest reference to it in Latin literature after Martial as a published book rather than a notebook, comes in Gaius;³ his own *Institutiones* were written on rolls⁴ and a third-century fragment of them from Oxyrhynchus⁵ also belongs to a roll whereas the Florentine MS. from Antinoopolis of the fourth century is a codex.⁶ Paulus and Ulpian still write their own works for publication in roll form,⁷ but near the end of the third century the first of the long series of great legal Codes comes

¹ i. 3.21.

² Much the same view of this passage is taken by Dziatko, *op. cit.*, p. 135, n. 5. An exact parallel to such a title in the first century is provided by Tacitus, *Annals* xiv. 50: 'Haud dispari crimine Fabricius Veiento conflictatus est, quod multa et probrosa in patres et sacerdotes composuisset iis libris quibus nomen codicillorum dederat.'

³ Quoted in *Digest* xli. 1. 9: 'Litterae quoque licet aureae sint perinde chartis membranisque cedunt ac solo cedere solent ea quae aedificantur aut seruntur. ideoque si in chartis membranisque tuis carmen vel historiam vel orationem scripsero, huius corporis non ego, sed tu dominus esse intellexeris. sed si a me petas tuos libros tuasve membranas nec impensas scripturae solvere velis, etc.' The word *codex* is still not used; *impensas scripturae* makes it clear that the reference is to publication. The same illustration is used in *Inst.* ii. 77. Here, as in similar passages elsewhere in the *Digest*, *membranae* can refer only to parchment codices; if it had been to parchment rolls, the expression *in voluminibus chartaceis sive membranaceis* would have been used.

⁴ See H. J. Wolff, *Introduction to Roman Law* (University of Oklahoma Press, 1951), pp. 136-40.

⁵ P. Oxy. xvii. 2103.

⁶ PSI xi. 1182.

⁷ See Wolff, *loc. cit.*

into existence, the Codex Gregorianus closely followed by the Codex Hermogenianus.¹ These collections of imperial constitutions from Hadrian to Diocletian (neither of which has survived) were, in the words of a modern scholar, 'compilations of a period . . . lacking originality and possessed of a boundless reverence for the old authorities'.² It is noteworthy that only a little later, between A.D. 310 and 320, Ulpian's work *On the Edict* and probably his Commentary on Sabinus were reissued in codex form.³ At this point when codex is beginning to carry its full meaning of 'authorized collection' both in law and theology we may stop to consider some formal aspects of these early codices.

There is no reason for thinking that the change from roll to codex, any more than that from papyrus to parchment, involved in itself any change in the style of writing. Neither the development of the so-called left inclination in writing nor that of the biblical Uncial style (to use a name sanctioned by long usage but highly misleading) can be associated with the use of the codex.⁴ M. Mallon has disposed of the first hypothesis;⁵ of the second it is enough to remark that the style is found in rolls, sometimes as early as the second century, but never in a codex before the late third or fourth centuries, certainly never in the early biblical codices.⁶ One generalization that the facts so far allow is that ornate and calligraphic hands are not found in early codices.⁷ Among the non-Christian codices a small, rapid,

¹ For the Codex Gregorianus (probably privately sponsored) see Krueger in *Zt. Sav.stift.* viii. 81; Mommsen, *ibid.* x. 349; Jors in Pauly-Wissowa-Kroll *s.v.* In general on these early codes cf. Wolff, *op. cit.*

² *Ibid.*, p. 136.

³ *Ibid.*, p. 140.

⁴ Both views have been upheld by M. Marichal, the first in *Somme Typographique*, i (1948), pp. 63 sq., the second in *L'Antiquité Classique*, xix (1950), pp. 113 sq.

⁵ In his *Paléographie romaine* (Madrid, 1952), p. 164; he makes the devastating comment that of the two types of hand in question, that of the *De Bellis Macedonicis* of the late first or early second century, and that of the Livy Epitome of the late third or early fourth century, which were quoted as typical respectively of the roll and the codex, the former is in fact written on a codex and the latter on a roll.

⁶ See the list in H. J. M. Milne and T. C. Skeat, *Scribes and Correctors of the Codex Sinaiticus*, p. 61; to this should be added the fragment of a roll of Appian from Dura (cf. C. B. Welles in *Trans. Am. Phil. Ass.* lxx (1939), pp. 211 sq.).

⁷ An exception to this rule would be claimed by anyone who considers the Ambrosian Iliad to have been written in the third or even the second century. This is not the place for a discussion of this vexed question, but I may note that to my mind the best solution from a palaeographical standpoint was provided but never published by A. S. Hunt. In the margin to p. 199 of his copy of Maunde Thompson's *Introduction to Greek and Latin Palaeography* (now

forward-slanting hand—quick, practical, and economic of space—is most commonly found; it is also found in some of the Christian codices. Some of the latter, and among them the earliest, are written in hands which in varying degrees are blends of the literary and documentary styles such as might be written by men who, while not trained calligraphers, were practised writers aware that they were not just copying a document or a private letter. In this category I should place the Rylands St. John, the Unknown Gospel in the British Museum, the Baden Deuteronomy, and the Chester Beatty Pauline Epistles. If any Greek hand affected the development of Latin uncial—essentially the hand of Christian manuscripts in Latin—I suspect that it is this.

The format and make-up of these early codices, interesting enough in themselves, contribute little to the solution of the questions with which we are here concerned. But it should be noted that the early papyrus codices were somewhat amateurishly made; it has been pointed out¹ that the sheets of which they were composed were demonstrably cut from a papyrus roll, from which we may infer that a blank papyrus codex could not be bought since the format was not recognized by the trade. (Yet a further indication of the priority of the parchment codex is provided by the relatively high degree of technical finish of the earliest parchment codices.) Perhaps the variety of format in the early papyrus codices may be set down to the same cause. It is certainly too great to encourage any attempt to associate a particular format with a given time. We know from Martial that the pocket format was the dress in which the codex first made its appearance in Rome; among the papyri I have counted 17 pocket codices, 5 on papyrus and 12 on parchment; of these none is earlier than the third century and all but one are Christian.² Of the earliest codices some (e.g. the Rylands St. John) in the Grenfell and Hunt Library in the Ashmolean Museum, Oxford) he pencilled the suggestion that the Ambrosian Iliad is a careful copy, executed in the fifth century, of an earlier manuscript.

¹ By H. Ibscher in an interesting if irresponsible paper (where the technicalities of book-production are not concerned) in the *Jahrbuch der Einbandkunst*, iv (1937), p. 12; cf. also the introduction he contributed to C. R. C. Allberry's *Manichaean Psalm Book* (Stuttgart, 1938), p. xii.

² The only early pocket codex is P. Lit. Lond. 204 (Psalms: papyrus, 3rd c.); the only one not to carry a Christian text is P. Ryl. 28 (palmomancy: papyrus, 4th c.) though P. Ryl. iii. 498 may be another example of this class. The other examples on papyrus are: (i) P. Oslo Inv. 1661, published by L. Amundsen in *Symb. Osl.*, xxiv, pp. 121 sq. (Matthew and Daniel: 4th c.) (ii) P. Berol. 9778 = *BKT.* viii, p. 6 (Genesis: 6/7th c.) (iii) P. Berol. 8299 = *BKT.* vi, p. 125 (acrostic hymn: 4th c.). On parchment we have (i) P. Oxy. xiii.

have a square format; in others (e.g. P. Oxy. iv. 656) the height of the page is double or more than double the breadth; in yet another the height is half as much again as the breadth. The arrangement of the page with two columns instead of one is common with the utility codices, the technical texts and the omnibus editions, but (as we have noted) is avoided on the whole in the early Christian texts. No codex assigned to the second century or to the borderline between second and third can be shown to have had more than 216 pages.

With the opening of the fourth century the codex is near its triumph. Certainly the use of the codex for all purposes by Christians is soon axiomatic. It would be tedious to cite all the evidence, but it may be worth pausing to look at the terminology which can perhaps be seen at its clearest in Optatus of Milevi who was writing in the seventies and eighties of the fourth century.¹ He uses *volumen* only of official *acta*, *chartae* either of official documents or of the Jewish Law or collectively of the Jewish scriptures (a usage which reveals that it was now regarded as certain that the Jews would stand apart from the general movement and keep to the roll as the only form for their sacred books). By contrast he employs *membranae* of the New Testament or of the Christian scriptures in general. When he refers to specific books of the Christian Bible he calls them either *membranae* (parchment codices) or *libri*,² which with him often means

1594 (Tobit: late 3rd c.) (ii) P. Oxy. vi. 840 (uncanonical gospel: 4th c.) (iii) P. Oxy. viii. 1080 (Revelation: 4th c.) (iv) P. Ant. 13 (2 John: 3rd c.) (v) P. Oxy. vii. 1010 (Ezra: 4th c.) (vi) PSI x. 1164 + P. Berol. 16354 = BKT. viii, p. 55 (Jonah: 4/5th c.) (vii) PSI i. 5 (James: 5th c.) (viii) P. Oxy. xv. 1782 (Didache: late 4th c.) (ix) P. Grenf. i. 6 (Zechariah: 5th c.) (x) P. Grenf. i. 8 (Protevangelium: 5/6th c.) (xi) P. Oxy. xvii. 2065 (Psalms: ? amulet: 5/6th c.) (xii) P. Lit. Lond. 239 (amulet: 6/7th c.).

The largest of these is P. Oxy. viii. 1080 with a page measuring 9.5 × 7.8 cm., the smallest P. Oxy. xvii. 2065 with a page measuring 4 × 5.7 cm. The format is discussed by L. Amundsen, loc. cit., p. 126, and H. C. Youtie, 'A Codex of Jonah' in *Harvard Theological Review*, xxxviii (1945), p. 195; in each some examples are given of Coptic codices in this format.

¹ *Opera* (Vienna, 1893) 165. 4: 163. 11: 166. 22. 28; 153. 3. 6: 163. 9: 166. 22.

² His use of *liber* is of interest since normally it, like βιβλίον in Greek, says nothing about the form of the book. F. C. Burkitt ('The Gospels and their Oldest MSS.' in *Antiquity*, iv (1930), pp. 5 sq.) is mistaken in inferring from the word *libri* in the Acts of the Scillitan Martyrs that the scriptures were still (*sic*) kept in rolls. In the fourth century Martyrium of Agape, Eirene, and Chione (Knopf-Krüger, op. cit., iv. 2 *et al.*) βιβλία is used in its old sense of papyrus books in contrast to διφθέραι = parchment books, μή τινα ἔστιν παρ' ὑμῖν τῶν ἀνοσίων Χριστιανῶν ἡ ὑπομνήματα ἡ διφθέραι ἡ βιβλία.

papyrus codices. But his standard expression for the Christian Bible, the *libri sancti*, is *codices*. This word is now so closely associated with the Christian Bible that St. Augustine can say,¹ in writing of the variety of Latin translations of the Greek New Testament, 'ut cuique primis fidei temporibus in manus venit codex Graecus . . . ausus est interpretari'. Similarly St. Jerome says of the martyr Pamphilus who died in A.D. 309, 'scripturas sanctas tribuebat promptissime non solum viris sed et feminis, unde et multos codices praeparabat ut cum necessitas poposcisset voluntario largiretur'.² This should be set side by side with the often quoted story of the same Pamphilus' own copy of the works of Origen: 'bibliothecam ex parte corruptam Acacius et Euzoius' (successive bishops of Caesarea in the middle of the fourth century) 'in membranis instaurare conati sunt',³ a story neatly paralleled by the colophon in the Vienna manuscript of Eusebius, Εὐζώϊος ἐπίσκοπος ἐν σωματίοις ἀνανεώσατο.⁴

One of the advantages that the codex form now afforded to a religion of authority can be seen from a story told by Rufinus. He relates⁵ how a heretical sect, the Pneumatomachi, added Novatian's *de Trinitate* to the corpus of the letters of the martyr Cyprian. These letters (Rufinus continues) were commonly written in a single codex; this sect added the heretical tract and then sold them below cost price in Constantinople in large numbers, thinking no doubt that once an heretical tract was included in an orthodox corpus it would acquire by mere proximity the odour of sanctity adhering to the latter. But they were too late. The device was detected; for once a codex, in the sense of an authorized collection, had been issued with title and list of contents it was more difficult to make additions or substitutions than it was to interpolate a forged roll in a collection of rolls. The importance of the codex as affording a means of editorial control is illustrated by a remarkable letter St. Augustine wrote to Firmus on the *De Civitate*,⁶ in which he explains that he is sending the manuscript and suggests that it be bound either in two volumes or five and attaches a table of contents.

The apotheosis of the Christian codex comes with Constan-

¹ *De Doctrina Christiana*, ii. 11. 6: cf. *Ep.* 211, 13.

² *ad Rufinum*, i. 9.

³ Jerome, *Ep.* 34 (14).

⁴ Quoted by L. Traube, *Vorlesungen*, p. 94.

⁵ Migne, *PG.* 17, 628 C, 692 A.

⁶ Published by C. Lambot in the *Revue Bénédictine*, li (1939), p. 109; for St. Augustine's methods of 'publishing' cf. *Ep.* 184a. See also H. I. Marrou's article, 'La division en chapitres des livres de la cité de Dieu', in *Mélanges J. de Ghellinck* (1951), i, pp. 235-49.

tine's famous order for fifty copies of the scriptures for the new churches in his new capital; they are to be codices (σωμάτια) on highly finished parchments, easy to read and easy to handle; the order is executed by Eusebius of Caesarea in sets of three or four volumes apiece in expensive bindings.¹ With this we may compare the account, less well known,² of how St. Athanasius was ordered to make codices (πυκτία)³ for the Emperor's son Constans. Clearly Alexandria possessed, as did Caesarea, not only a library but a scriptorium attached to the Church; in this as in other details of fourth-century life we feel that the Middle Ages are already beginning. Constantine's proviso that his Bibles must be easy to handle forbids us to think that the Sinaiticus was among them, but whatever the occasion of its making, it may well stand as the supreme example of the technical accomplishment of the fourth-century scribe and book-maker. The arrangement of four (in parts three) columns to the page does not, as we have seen, mean that it was copied from a roll; the explanation may be found in the size of the page on which one continuous line would strain the reader's eyesight, or, more probably, in the example set by pagan literature. Now that pagan literature was being transferred wholesale from the roll, the codex was becoming the format of fashion; the pagan *de luxe* edition would set the standard for a book such as the Sinaiticus, and in the former we might reasonably expect to find the multiple column format.

Not less significant of the trend of taste than the story of Origen's manuscripts in Caesarea is that of the first edition of the works of Plotinus. In the life of his master, Porphyry relates⁴ how in the first decade of the fourth century he assembled and edited the works, of which till then there had been no authorized edition. He divided them into six groups of nine books each (the famous *Enneads*) and each of the six groups was comprised in a codex. Here, as with the letters of Cyprian, the problem was not

¹ For Constantine's order see Eusebius, *Vit. Const.* iii. 1 and iv. 36. The subject is well discussed by C. Wendel in *Zeitschrift f. Bibliothekswesen*, lix (1939), pp. 193 sq.

² Migne *PG.* xxv. 600 C: on this see Wendel, *op. cit.* lvi (1939), p. 117.

³ The meaning of πυκτίον is illustrated by Gregory of Nyssa in *Ep.* 28 in which he describes how he collected the notes (σχιδάρια) he had dictated and reduced them εἰς λόγου σύνταξιν with the result πυκτίον ἤδη γεγενῆσθαι τὸν λόγον.

⁴ *Vita Plotini*, 25-26. The Life has much information on the ancient book and on palaeography that has not been exploited in the standard manuals, e.g. chapters 8 and 19.

merely to find a convenient or capacious format, but one that would meet the need for an authoritative and standard edition; Porphyry is quite explicit that the primary function of the codex was to protect the text. Important as this was in a philosophical text, it was yet more so in a work of reference. Hence it is not surprising to find that in a rescript addressed to the City of Rome in A.D. 426 the Emperors rule that the *Sententiae* of the great jurisconsults—Scaevola, Sabinus, Julianus, Marcellus, and others—are to be valid ‘*si tamen eorum libri propter antiquitatis incertum codicum collatione firmentur*’.¹

Nothing better illustrates the reasons that led to the general adoption of the codex than the account given by the orator Themistius of the foundation of the first great library in Constantinople by the Emperor Constantius about the year A.D. 356.² This library was attached to the imperial High School and with it was a scriptorium; in this, as in much else, we may probably detect the influence on secular life of ecclesiastical precedent. In reading Themistius’ account³ we must make due allowance for the rhetorical language in which it is couched, for his adulation of the Emperor, and for his desire to magnify the imperial benefaction by painting a picture darker than the facts would warrant of what would have happened had no benefaction been made. Yet when we make due subtractions, it is evident from what remains that the formation of this great library which was to include not only the major classics—Plato and Aristotle, the poets and the orators—but works of more recondite scholarship as well, was conceived as a conscious attempt to salvage the classical heritage before a complete collapse supervened. Nothing explicit is said (facts of any kind are far to seek in the wastes of Themistius’ rhetoric), but Wendel is surely right in inferring that the exemplars were rolls and that an important part of the process of conservation lay in transferring the texts to the safety of the codex; it is hard to see what other meaning could lie behind the words.

Another practical advantage of the codex should not be overlooked. Its average content was perhaps six times that of the roll; in one of his letters Gregory the Great remarks⁴ that within the compass of six codices he has compressed a work that had occupied thirty-five rolls.

¹ *Codex Theodosianus*, i. 4. 3. 5 sq.

² See C. Wendel, *Die Erste Kaiserliche Bibliothek in Konstantinopel* in *Zt.f. BW.*, lix (1942), 173 sq.

³ *Or.* (ed. Dindorf), iv. 59–61 (pp. 70–73).

⁴ *Ep.* 5. 53a.

As time went on the parchment codex tends more and more to supersede its papyrus counterpart, even in Egypt.¹ One reason for this is given in a letter written to Ruricius, Bishop of Limoges, in the second half of the fifth century, 'chartaceus liber est ad ferendum iniuriam parum fortis quia citius charta, sicut nostis, vetustate corrumpitur';² toughness in books as in human beings was a prerequisite of survival in late fifth-century Gaul.

And the greater capacity of the codex made possible another development. In an age of contracting culture and declining literacy the codex acquires a new function, at the lowest that of an anthology, at the highest that of the preserver of the essential minimum of an author's work. It is likely that the famous editions of the selected plays of the three great tragedians existed from the beginning in codex form; indeed the number of plays chosen may have been determined by the capacity of the third-century codex.

The roll still survived in the fourth century although it was rapidly losing ground. As time went on, it was increasingly restricted to formal, diplomatic, and liturgical purposes; it has long survived in the form of the honorific scroll, and in that of the microfilm may yet return to challenge the supremacy of the codex. It is difficult to be certain of what it was that ensured the dominance of the codex in the fourth and succeeding centuries. There was no single cause, although the most potent was probably the adoption of the notebook form by the early Church. The pagan codex, as we meet it in Martial and in the third-century papyri, was designed to appeal to the reader's convenience as well as to his pocket, but this appeal might well have failed had it not been reinforced by the claims of authority and completeness. It is in the field of Law that we first see the codex responding to the demand for a final and authoritative collection of texts; with Christian literature the codex came first and the ideas of canonicity and authority later. The priority of the Law in this regard is nicely recognized by Cassiodorus' reference to the Scriptures as the Divine Pandects.³ The adoption of the codex may be seen as one small symptom of a profound psychological change, one easier to sense than to describe, that begins to be evident in the third century A.D. and that marks the transition from the ancient to the medieval world. We may contrast

¹ The library of a village church in Egypt in the sixth century contained 21 parchment codices and three of papyrus (P. Grenf. ii. 111).

² *Ep. ad Ruricium* iii (= *C.S.E.L.* xxi, p. 446, 10).

³ *Inst. Div. Lit.* 12 and 14 (Migne, *PL* lxx. 1124-6.)

the importance of the spoken word and of rhetoric in the ancient world with that of reading and contemplation in the medieval, and may recall that of the world of late antiquity it has been said, of Christian and pagan alike, that men 'were prepared to accept statements because they were in books or even because they were said to be in books'.¹ This idea of the book was expressed in the codex. It was of Roman descent; its sponsors were the Church and the Law; it was nourished in the hard times of the third century, and came of age in the changed world of the fourth. It can stand as a proper symbol of the new age, the two pillars of which were to be throughout the next millennium the Scriptures and the Code.

¹ A. D. Nock, quoted by E. R. Dodds, *The Greeks and the Irrational* (University of California Press, 1951), p. 241.